

## High Performance V.34 Intelligent Fax Boards with T1/E1, BRI, Analog, DID and Real-Time Fax Over IP Interfaces



### Features & Benefits

#### Based on V.34 Fax Standard

The TR1034 sends and receives faxes up to 33.6 Kbps based on the V.34 fax standard\*. Not only can the TR1034 process fax at twice the speed of 14.4 Kbps fax boards, it also supports V.8 fast handshaking and advanced compression, which can cut call setup and session-management time by one third. In the end, a fax document that takes 1 minute with a 14.4Kbps intelligent fax board can now be sent in less than 30 seconds with the TR1034. This translates into significant savings on long distance toll charges.

#### Scalable

The TR1034 is a scalable fax platform offering a range of configurations. The TR1034 is available in 2, 4 and 8 analog channels; 2 and 4 DID/Combo channels; 2 and 4 BRI channels; 4, 8, 16, and 24 T1/PRI; 8, 10, 16, 20 and 30 E1/PRI channels.

#### Patented Inbound Fax Routing

The TR1034 supports Cantata's patented DID inbound fax routing required by fax server, fax-to-email, unified messaging, fax document management, workflow and document delivery and compliance systems.

#### Investment Protection

The TR1034 T1/E1 is the only fax board that preserves your investment by supporting both PSTN and VoIP networks giving you the confidence that your fax server will continue to work after you transition to VoIP. For IP network connectivity, the TR1034 digital T1/E1 provides an Ethernet interface and supports real-time Fax over IP via T.38, SIP and H.323 call control protocols. For PSTN-based faxing, the TR1034 is offered in a variety of analog, BRI and PRI configurations, compatible with all 33 MHz and 66 MHz PCI slots.

#### Field-Proven T.30

No matter whether faxes are sent in real-time over the PSTN or over IP, Cantata's field-proven T.30 implementation remains at the heart of every fax connection. To guarantee delivery every time, even for calls between two IP end-point devices, which rely on the T.38 protocol, a highly reliable T.30 implementation is required. Cantata is recognized as having the best T.30 protocol stack available on the market today as a result of nearly 20 years experience developing and supporting intelligent fax technology that is deployed in a wide variety of enterprise and service provider environments.

#### Secure Solution

The TR1034 intelligent fax boards support T.30 and T.38 fax protocols which eliminates the security vulnerability posed by Class 1, Class 2 and other fax devices that use V.90.

#### Interoperable with Leading Gateways

The TR1034 has been tested with Fax over IP equipment from industry leading providers to ensure interoperability.

#### Easily Increase Capacity

The Technology Expansion Capability (TEC) allows you to increase your feature set on the TR1034 fractional T1/E1 intelligent fax boards through the simple process of installing a software license key.

\*TR1034 DID Combo boards receive faxes up to V.17 and send up to 33.6Kps.

*The Cantata Technology™ Brooktrout® TR1034™ is a high performance intelligent fax board offering support for PSTN and Fax over IP connectivity. The TR1034 is suitable for a variety of computer-based fax applications such as fax server, unified messaging, fax document management and compliance systems.*

*The TR1034 delivers unmatched call completion at the fastest possible connection rates across a wide variety of fax machines and line conditions while delivering the ultimate in flexibility.*

*The TR1034 is available in both PCI and PCIe formats. Analog configurations with PCI Express form factors are available now. Digital configurations will be available on a rolling schedule throughout 2007.*

*With over 70% market share worldwide, Cantata is the market leader in intelligent fax platforms, offering the fullest featured and broadest range of fax platforms available on the market today. The Brooktrout intelligent fax technology reduces cost and maximizes ROI of fax servers by providing the most reliable and secure fax platforms available.*

## Specifications

### HARDWARE

#### Analog Platform

- CPU: PowerPC 8241@200MHz
- DSPs: 2 TI C5402 (123 MIPS total)
- Media channels: Up to 8 V.34 fax and voice
- Telephone interface and signaling: RJ11, Loop Start; RJ45-to-(4)RJ11 interface cable supplied.
- Physical: Full-size 4.2"x12.283"
- Physical: Half-size 4.2"x6.600"
- Server Bus:
  - PCI Full-size: 33 MHz PCI 2.2 (3.3/5V signaling)
  - PCI Half-size: 33 MHz PCI 2.3 (3.3/5V signaling)
  - PCIe: x4 lane PCIe 1.1
- Power: 6W

#### BRI Platform

- CPU: PowerPC 8241 @ 200MHz
- DSP: TI C5402 (61 MIPS total)
- Media channels: Up to 4 V.34 fax and voice
- Network interface: 1 or 2 BRI
- Signaling: ISDN BRI, Euro, Japan
- Physical: half-size 33MHz PCI 2.2 Universal card (3.3/5V signaling), 4.2"x6.875"
- Power: 5W

#### T1/E1 Platform

- CPU: PowerPC 8240@200MHz
- DSPs: PCI: 6 TI C549 (600 MIPS total)
- Network interface: One T1/E1 interface (RJ48C), DSX-1 (requires CSU)
- Ethernet interface: 1 10/100 MB interface
- Signaling
  - ISDN PRI: N.A., Euro ISDN
  - T1 CAS: RBS E&M (wink and immediate)
  - E1 CAS: Configurable MFC R2 support
  - SIP (RFC 3261)
  - H.323 (version 4)
- Media channels: Up to 30 V.34 fax and voice
- Telephony Bus: ECTF H.100; MVIP-90, (via bus adapter)
- Physical: Full-size 33MHz PCI 2.2 Universal PCI (3.3/5V signaling), 4.2"x12.283"
- Power: PCI: 17W max

### ENVIRONMENTAL

- Operating temperature: 0°C–50°C
- Humidity: 10%–95% non-condensing

### FAX

- ITU T.30; ITU T.38; Group 3
- V.17, V.23, V.29, V.27ter, V.21, V.34 modulation
- Up to 33.6 Kbps with auto fallback
- Normal and fine resolution: 100x200, 200x200
- Additional Resolutions
  - 200x400, 300x300, 300x600, 400x800, 400x400, 600x600, 600x1200, 1200x1200
  - 100x100, 300x300, 400x400, 600x600, 1200x1200 Color/Grayscale pass through
- MH, MR, MMR compression
- On-board image conversion
- A4, A3 and B4 page sizes with scaling
- A4 and B4 TIFF F file widths

- Enhanced ASCII conversion support with headers
- Image pass-through: Color fax T.42 (JPEG), JBIG T.85 (B/W), T.43 (color)
- Error Correction Mode (ECM)
- Line error detection/repeat good line

### VOICE PROCESSING

- 64Kbps G.711 PCM  $\mu$ -law and A-law PCM
- OKI ADPCM at 6KHz & 8KHz sample rates
- 11KHz 8/16 bit .WAV; 8KHz 16 bit .WAV
- DTMF/MF/Special Information Tone (SIT) detection
- Playback volume control, pitch corrected speed control
- Silence compression

### CALL PROGRESS AND CALL CONTROL

- International call progress and tone detection
- Programmable tone and cadence detection/generation
- CED, CNG, v.21 modem detection
- ANI/DNIS, DID, DTMF and MF detection

### INTEROPERABILITY\*

- Cantata IMG 1010
- Cisco 1700 Series IOS version 12.3, SIP, H.323
- Cisco 2600 Series IOS version 12.3, SIP, H.323
- Cisco 2800 Series IOS version 12.4, SIP, H.323
- Cisco 3700 Series IOS version 12.3, SIP, H.323
- Cisco 3800 Series IOS version 12.4, SIP, H.323
- Cisco AS5400 Series Universal IOS version 12.3, SIP, H.323
- Quintum Tenor Series supported software version P104-12-10 or later

\*Cantata is continually adding IP PBX and T.38 Gateway interoperability. Please see [www.cantata.com/interop/fax](http://www.cantata.com/interop/fax) for the most updated list.

### OPERATING SYSTEM SUPPORT

- Windows 2000 Professional Service Pack 4
- Windows 2000 Server, Service Pack 4
- Windows 2000 Advanced Server, Service Pack 4
- Windows XP Professional, Service Pack 2
- Windows Server 2003, Standard Server Edition
- Windows Server 2003, Server Edition, 64-bit version, Service Pack 1
- Windows Server 2003, Enterprise Edition, 32-bit version, Service Pack 1
- Redhat Linux Advanced Server 3.0 & 4.0
- Solaris SPARC 9 and 10 (32 and 64-bit for both versions)

### INSTALLATION AND CONFIGURATION

- Windows Plug and Play Compliant
- Windows Graphical Configuration Tool

## MODELS/CONFIGURATIONS

### T1 Interfaces - PCI

- TR1034 +P4H-T1-1N-R, 4 channel PCI
- TR1034 +P8H-T1-1N-R, 8 channel PCI
- TR1034 +P16H-T1-1N-R, 16 channel PCI
- TR1034 +P24H-T1-1N-R, 24 channel PCI

### E1 Interfaces - PCI

- TR1034 +P4H-E1-1N-R, 4 channel PCI
- TR1034 +P8H-E1-1N-R, 8 channel PCI
- TR1034 +P10H-E1-1N-R, 10 channel PCI
- TR1034 +P16H-E1-1N-R, 16 channel PCI
- TR1034 +P20H-E1-1N-R, 20 channel PCI
- TR1034 +P30H-E1-1N-R, 30 channel PCI

### Analog Interfaces - PCI

- TR1034+P2-2L-R, 2 channel PCI
- TR1034+P4-4L-R, 4 channel PCI
- TR1034+P8-8L-R, 8 channel PCI

### Analog Interfaces - PCIe

- TR1034+E2-2L, 2 channel PCIe
- TR1034+E4-4L, 4 channel PCIe
- TR1034+E8-8L, 8 channel PCIe

### BRI Interfaces - PCI

- TR1034+P2-1B-R, 2 channel PCI
- TR1034+P4-2B-R, 4 channel PCI

### DID/Combo -PCI

No External Power Supply Required

- TR1034+uP2C-R 1 Channel Loop Start / 1 Channel DID; Half-Size Universal PCI
- TR1034+uP2D-R 2 Channel DID; Half-Size Universal PCI
- TR1034+uP4C-R 2 Channel Loop Start / 2 Channel DID; Half-Size Universal PCI
- TR1034+uP4D-R 4 Channel DID; Half-Size Universal PC-X

## APPLICATION PROGRAMMING INTERFACE

Bfv API

## ENVIRONMENTAL COMPLIANCE

This electronic equipment complies with the European Union Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, Directive 2002/95/EC (RoHS).

## WARRANTY

Five year hardware warranty. Separate warranty terms apply to software products and custom products. Extend the standard warranty with Express Exchange Service\*, next day delivery of a replacement fax board.

\*Subject to certain terms and conditions

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*Cantata Technology™, established in 2006 through the combination of Brooktrout Technology® and Excel Switching Corporation, provides enabling communications hardware and software that empowers the creation and delivery of anytime, anywhere IP-based communications applications. Leveraging more than 20 years of experience, Cantata offers the broadest range of products, along with a worldwide network of partners that allows service provider and enterprise customers to develop new products, introduce new services and cost-effectively transition networks to IP. Headquartered in Needham, Mass., Cantata maintains multiple locations worldwide in North America, Asia and Europe.*

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